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| EXAMINER |
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YU, HENRY W

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2182

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/500,205 | Applicant(s) HEIZMANN ET AL. | |
| | Examiner HENRY YU | Art Unit 2182 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4,6,9 and 11-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4,6,9 and 11-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 August 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

INFORMATION CONCERNING RESPONSES

Response to Amendment

1. This Office Action is in response to applicant's communication filed on January 11, 2010, in response to PTO Office Action mailed on August 10, 2009. The Applicant's remarks and amendments to the claims and/or the specification were considered with the results that follow.

2. In response to the last Office Action, **claims 1 and 6** have been amended. As a result, **claims 1, 4, 6, 9, and 11-13** are now pending in this application.

Response to Arguments

3. Applicant's arguments filed on January 11, 2010, in response to the office action mailed on August 10, 2009, have been fully considered and are persuasive. Hence, the rejection has been withdrawn. However, upon further review a new ground of rejection has been made in view of Isfeld (Patent Number US 5,664,166).

REJECTIONS BASED ON PRIOR ART

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1, 4, 6, and 9** rejected under 35 U.S.C. 103(a) as being unpatentable over Profibus Technical Description (Order-No. 4.002, September 1999) (henceforth known as “Profibus”) in view of Iwazaki (Patent Number US 6,073,244) and in further view of Isfeld (Patent Number US 5,664,166).

As per **claims 1 and 6**, “Profibus” discloses “a method for setting an operating parameter in a peripheral IC (**slave devices; Page 4, column 2, paragraph 4**), the method comprising: transmitting the operating parameter from a central IC...(the master device can send messages; **Page 4, column 2, paragraph 3**) via a bus connection to the peripheral IC, the bus connection being a serial bus connection (**the system utilizes a RS-485 transmission protocol, with RS-485 being serial in nature; Page 5, column 2, paragraph 2**).”

“Profibus” discloses “buffering the operating parameter in a preregister of the peripheral IC (**output data is stored at the slaves but the output states remain unchanged, which is seen as a preregister being used to store the output data that so far has no effect on the output states**), a current operating parameter being stored in a working register of the peripheral IC (**during sync mode, the slaves receive a sync command from their assigned master. However, the outputs of all addressed slaves are frozen in their current state. This is seen as a working register being used to memorize the unchanged output states; Page 15, column 2, paragraph 2**)” and “sending a transfer pulse from the central IC to the peripheral IC via the control line (**the slaves receive a sync command from their assigned masters**), the transfer pulse triggering transferring of the buffered operating parameter to the

working register, wherein the buffered operating parameter becomes active in a working process of the peripheral IC (the output data are stored at the slaves, but the stored output data are not sent to the outputs until the next sync command is received; Page 15, column 2, paragraph 2)."

Though "Profibus" discloses "sending a start pulse signaling a start of a data transmission...(the next sync command, when received, causes the stored output data to be sent to the outputs; Page 15, column 2, paragraph 2)," "Profibus" does not explicitly disclose "using synchronous data transmission" or that it is via "the bus connection...having a data line, a control line, and a clock line," "sending a start pulse signaling a start of a data transmission from the central IC to the peripheral IC via the control line," or "wherein the start pulse is transmitted on the control line during a first phase where transitions of the clock signal are present on the clock line and wherein the transfer pulse signal is transmitted on the control line in a second phase where transitions of the clock signal are not present on the clock line."

Iwazaki discloses "using synchronous data transmission (as seen in the signals as seen in FIG. 2A to FIG. 2F)."

Iwazaki discloses the idea that "the bus connection...having a data line (represented by the data signal in FIG. 2E. The idea of a data line is well known in the art, as shown by data line 106 in FIG. 9), a control line (represented by the control signal in FIG. 2D. The idea of a data line is well known in the art, as shown by control line 107 in FIG. 9), and a clock line (represented by the clock signal in FIG. 2A, as well as clock signal wire 6 in FIG. 1)" and the idea of sending a start

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pulse signaling a start of a data transmission “*from the central IC to the peripheral IC (central processing unit accesses the peripheral processing units; Column 6, lines 26-28) via the control line (signals relating to the control (e.g. start) of data transmission are bit lines (represented by the fact that the signals clearly go from low to high, as opposed to the address and data signals which assert more than one bits at once), and hence can be seen as being sent on lines separate from those of the address and data; FIG. 2A-2F).*”

However, the combination of “Profibus” and Iwazaki does not explicitly disclose “*wherein a data transmission clock signal is derived from a system clock signal available to the central IC*” or “*wherein the start pulse is transmitted on the control line with a rising edge of the system clock signal during an active high state of the data transmission clock signal present on the clock line and wherein the transfer pulse is transmitted on the control line with a rising edge of the system clock signal when the data transmission clock signal is absent on the clock line.*”

Isfeld discloses the idea of a signal that is derived from a system clock signal as “*wherein a data transmission clock signal is derived from a system clock signal available to the central IC (the focus is on the toggle signal (as seen in FIG. 2), which is influenced by the clock signal clk; FIG. 1).*”

Isfeld discloses “*wherein the start pulse is transmitted on the control line with a rising edge of the system clock signal during an active high state of the data transmission clock signal present on the clock line (en1 occurs on the rising edge of the Clock signal when the toggle signal is active high; FIG. 2) and wherein the*

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transfer pulse is transmitted on the control line with a rising edge of the system clock signal when the data transmission clock signal is absent on the clock line (en0 occurs on the rising edge of the Clock signal when the toggle signal is not present; FIG. 2).”

“Profibus,” Iwazaki, and Isfeld are analogous art in that both relate to IC circuits, especially in connection and interface. Iwazaki and Isfeld are also in the fields of synchronous signals.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the device as disclosed by “Profibus” with the details concerning clock timing and separate lines for data, clock, and control as disclosed by Iwazaki, which notes that such structures are known in the art [FIGs. 9-10]. The idea of separate buses for control, data, and address is also useful in situations where certain controls/modules/components rely on a particular type of signal (which is more difficult if the signals are all transmitted over the same bus), as Iwazaki noted in [Column 6, lines 30], where monitoring is influenced by the presence of a start signal.

As for Isfeld, the signal arrangements can help in situation where preventing time overlap between drivers is crucial in order to avoid large currents running between the said drivers [Column 1, lines 60-67].

Claim 6 discloses the same limitations as those in **claim 1** above. Hence, this claim has been rejected accordingly.

As per **claims 4 and 9**, the combination of “Profibus,” Iwazaki, and Isfeld discloses “the method” (see rejection to **claim 1** above). “Profibus” further discloses

*“transferring the register write address (**head info**) for writing to the preregister in the peripheral IC on the data line ahead of the operating parameter (**the head info is written between the input/output data; Page 15, FIG. 11).**” Claim 9 discloses the same limitations as those in claim 4 above. Hence, this claim has been rejected accordingly.*

6. **Claims 11-13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Profibus Technical Description (Order-No. 4.002, September 1999) (henceforth known as “Profibus”), Iwazaki (Patent Number US 6,073,244), and Isfeld (Patent Number US 5,664,166) in view of Adams et al. (Patent Number US 7,120,427 B1).

As per **claim 11**, the combination of “Profibus,” Iwazaki, Isfeld discloses the “device” (see rejection to **claims 1 and 6** above, which also includes motivation to combine). However, the combination of “Profibus,” Iwazaki, and Isfeld does not disclose that *“the peripheral IC relates to a front-end IC for a communication arrangement for wireless data transmission and the central IC relates to a signal processing device, with means for modulation or demodulation of the mixed RF input signal and for further signal processing in baseband.”*

Adams et al. discloses *“the peripheral IC (**radio integrated circuit**) relates to a front-end IC for a communication arrangement for wireless data transmission (**wireless transceiver**) and the central IC relates to a signal processing device (**receive signal processor and transmit processor, which are located in a modem; Column 5, lines 1-8 and lines 20-24**), with means for modulation or demodulation (**Column 5, lines 1-8 and lines 20-24**) of the mixed RF input signal (**RF transceiver; Column 4,***

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line 44) and for further signal processing in baseband (Column 4, lines 58-67; Column 17, lines 59-63).

“Profibus,” Iwazaki, Isfeld, and Adams et al. are analogous art in that both relate to IC circuits, especially in the setting and transfer of data/parameters.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the device as disclosed by the combination of “Profibus,” Iwazaki, and Isfeld to include components that focus on wireless communication and digital signal processing as disclosed by Adams et al.

The motivation for doing so is because Adams et al. notes that **[different radio applications require a different level of performance, and different levels of performance (Column 1, lines 54-55)]**. In such instances, it would be easier to have a wireless system that is configurable through variable parameters and settings rather than have hard-coded parameters and settings with regards to the appropriate conditions.

As per **claim 12**, the combination of “Profibus,” Iwazaki, Isfeld, and Adams et al. discloses the “device” (see rejection to **claim 11** above). Adams et al. further discloses “the operating parameter relates to a gain setting for a receive gain in the front-end IC (gain settings...are set; Column 17, lines 35-39).”

As per **claim 13**, the combination of “Profibus,” Iwazaki, and Isfeld discloses the “device” (see rejection to **claims 1 and 6** above, which also includes motivation to combine). However, the combination “Profibus,” Iwazaki, and Isfeld does not disclose

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that the “*device is configured as a send and receive device for wireless data transmission in accordance with the HIPERLAN2 standard.*”

Adams et al. discloses “*device is configured as a send and receive device for wireless data transmission (RF transceiver) in accordance with the HIPERLAN2 standard (Column 19, lines 20-30).*”

“Profibus,” Iwazaki, Isfeld, and Adams et al. are analogous art in that both relate to IC circuits, especially in the setting and transfer of data/parameters.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the device as disclosed by the combination of “Profibus,” Iwazaki, and Isfeld to work within a device that handles wireless communication using the HIPERLAN2 standard as disclosed by Adams et al.

The motivation for doing so is because Adams et al. notes that **[different radio applications require a different level of performance, and different levels of performance (Column 1, lines 54-55)]**, and that wireless is becoming more widespread along with the many wireless protocols that are available **(Column 2, lines 4-5)**. In such instances, it would be easier to have a wireless system that is configurable through variable parameters and settings rather than have hard-coded parameters and settings with regards to the appropriate conditions.

RELEVANT ART CITED BY THE EXAMINER

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7. The following prior art made of record and relied upon is cited to establish the level of skill in the applicant's art and those arts considered reasonably pertinent to applicant's disclosure. See **MPEP 707.05(c)**.

8. The following references teach data transfer as they pertain to signal patterns and synchronization.

U.S. PATENT NUMBERS:

5,537,581 - FIG. 5

5,991,888 - FIG. 11

CONCLUDING REMARKS

Conclusion

9. The examiner requests, in response to this Office action, support be shown for language added to any original claims on amendment and any new claims. That is, indicate support for newly added claim language by specifically pointing to page(s) and line no(s) in the specification and/or drawing figure(s). This will assist the examiner in prosecuting the application.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HENRY YU whose telephone number is (571)272-9779. The examiner can normally be reached on Monday to Friday, 8:00 AM to 5:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TARIQ HAFIZ can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/H. Y./

Examiner, Art Unit 2182

January 28, 2010

/Tariq Hafiz/

Supervisory Patent Examiner, Art Unit 2182